CLAIMS

1. A method for optimizing a function, the method comprising:

expressing the function in an iterative procedure;

continualizing the function by parametrizing variables of the function by a continuous iteration variable;

determining a differential equation for solving the continualized function;

creating a new function with the differential equation as a constraint and control constraints;

using a Hamiltonian to produce an iterative control expression for controlling the optimization of the function; and

optimizing the function using the iterative control expression.

2. A method for adjusting a control state function produced by an optimization process, the method comprising:

using a sliding window technique to create a new frame of reference;

extend the control state function over the new frame of reference; and

compute repair differences with which the control state function can be adjusted to take into consideration changes in environment and projections, events, and previously calculated control state in order to adjust the control state function to the new frame of reference.

3. A method for controlling a computational process, the method comprising:

expressing the computational process as an iterative procedure;

continualizing the expression by parametrizing variables of the expression by a continuous iteration variable;

determining a differential equation for solving the continualized expression;

creating a new function with the differential equation as a constraint and with added control constraints;

using a Hamiltonian to produce an iterative control expression for controlling the optimization of the function; and

controlling the computational process using the iterative control expression.

5